

**Notice of Allowability**

Application No.

10/699,931

Examiner

Peter L. Cheng

Applicant(s)

CHENG, LONG-SONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/13/2007.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other \_\_\_\_\_

  
KINGY. POON  
SUPERVISORY PATENT EXAMINER

***Allowable Subject Matter***

Claims 1 – 6 are allowed. The following is an examiner's statement of reasons for allowance.

Claim 1 is directed to a fluorescent color scanning method. Claim 1 identifies the uniquely distinct features of:

reducing the brightness of said light source, and then scanning said standard white to obtain a second reference white  $W2(R,G,B)$

and

converting said  $Qm(R,G,B)$  into the accurate color output  $Om(R,G,B)$  based on said  $W1(R,G,B)$  through a conversion method.

Applicant's claims include elements which are not taught by the prior art nor rendered obvious. Examples of prior art are:

- **Tomita [US Patent Application 2002/002410 A1]** teaches the detection of fluorescent ink by comparing the output level of a line image sensor with the white level of a blank portion of the scanned document. If the line image sensor scans fluorescent ink, the corresponding output level will exceed the

white level of a blank portion of the scanned document [“In step S52, the level of the readout image data is compared with the level “220”, as the white level of the sheet surface detected in step S3. If the level of the readout image data is higher than level “220”, a binary value “1” is assigned to the readout image data in step S53.”; **page 4, paragraph 62, lines 1 – 5.** “Since the readout image data is binarized based on the comparison result in step S52, an image of a character or the like formed using fluorescent ink expressed by a binary value of “1” can be detected”; **page 4, paragraph 63, lines 1 – 4.** “In step S4, the sheet surface white level detection circuit 331 of the image processing unit 33 is enabled to detect the level of image data on a blank portion where no information is recorded at the leading end of the form ...”; **page 4, paragraph 56, lines 1 - 4].**

However, Tomita does not teach claim 1 limitations of **reducing the brightness of the light source, and then scanning the standard white to obtain a second reference white  $W2(R,G,B)$  or converting  $Qm(R,G,B)$  into the accurate color output  $Om(R,G,B)$  based on  $W1(R,G,B)$  through a conversion method.**

- **Thierauf [US Patent Application 2003/0039359 A1]** teaches the detection of fluorescent material imprinted on a bank note. Since scanning is performed under ambient light conditions, Thierauf teaches scanning of the bank note

twice – once with the light source switched on, and again, with the light source switched off. However, Thierauf does not teach the use of a white reference nor does Thierauf teach the scaling process of **converting  $Q_m(R,G,B)$  into the accurate color output  $O_m(R,G,B)$** .

- There are numerous prior art references that teach scanning a white reference twice – once with the light source turned on, and again with the light source turned off. One such reference is **Akuzawa [US Patent 5,453,850]**. However, such references are not directed towards the scanning of fluorescent materials and therefore, also do not teach **converting  $Q_m(R,G,B)$  into the accurate color output  $O_m(R,G,B)$** .
- Still other prior art references teach the detection of fluorescent material by use of an additional infrared (IR) sensor. One such reference is **Nakai [US Patent 6,486,974 B1]**. However, since such references rely on this additional sensor, they do not teach the limitation of **determining that the document contains a fluorescent color if  $Q_m(R) > W_2(R)$ ,  $Q_m(G) > W_2(G)$ , or  $Q_m(B) > W_2(B)$** .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Cheng whose telephone number is 571-270-3007. The examiner can normally be reached on MONDAY - FRIDAY, 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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plc

A handwritten signature in black ink, appearing to read 'K. Y. Poon', with a stylized flourish at the end.

KING Y. POON  
SUPERVISORY PATENT EXAMINER